Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221

April 24, 2003

Mr. Steve Zappe, Project Leader
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Bldg. 1
Santa Fe, New Mexico 87505-6303

Re: Transmittal of the Certification Audit Report for the Rocky Flats Environmental Technology Site (A-03-03)

Dear Mr. Zappe:

This letter transmits the Rocky Flats Environmental Technology Site Certification Audit Report for the processes performed to characterize and certify waste as required by Section II.C.2.c of the WIPP Hazardous Waste Facility Permit. The report contains the results of the annual re-certification audit performed for the processes previously approved by NMED for the characterization and certification of waste. Two new activities were also evaluated during the audit: The Building 371 Headspace Gas Sampling Using an Automated Manifold and Building 664 Mobile Real-Time Radiography (for lead-lined drums). The audit was conducted March 4-7, 2003.

I certify under penalty of law that this document and all enclosures were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Please contact the CBFO Quality Assurance Manager, Ava L. Holland, at (505) 234-7423 should you have any questions concerning this audit report.

Sincerely,

Inés Triay

Dr. Inés R. Triay
Manager

Enclosure

030439

CBFO:QA:DSM:GS:03-1154:UFC 2300.00

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U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

FINAL AUDIT REPORT

OF THE

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

GOLDEN, COLORADO

AUDIT NUMBER A-03-03

March 4 – 7, 2003

FINAL AUDIT REPORT OF WASTE CHARACTERIZATION IN ACCORDANCE WITH THE HAZARDOUS WASTE FACILITY PERMIT

Prepared By: _____ **Date:** 4/22/03
Charles L. Riggs, CTAC
Audit Team Leader

Approved By: _____ **Date:** 4/24/03
Ava L. Holland, CBFO
Quality Assurance Manager

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Audit A-03-03 was conducted to evaluate the continued adequacy, implementation, and effectiveness of the Rocky Flats Environmental Technology Site (RFETS) transuranic (TRU) waste characterization activities for debris and solid waste relative to the requirements detailed in the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP).

The scope of the audit included Summary Category Group S5000 debris waste (in particular, retrievably stored and repackaged debris waste) and Summary Category Group S3000 homogeneous solids waste. Two new activities were evaluated during the audit: Building 371 Headspace Gas Sampling Using an Automated Manifold and Building 664 Mobile Real-Time Radiography (for lead-lined drums).

The audit was conducted at the RFETS facility from March 4 – 7, 2003. The audit team concluded that the adequacy of the RFETS technical and Quality Assurance (QA) programs, as applicable to audited activities, was satisfactory in meeting requirements contained in the HWFP. The audit team also concluded that the defined QA and technical processes for the audited activities were being implemented in accordance with the RFETS Quality Assurance Project Plan (QAPjP) and the implementing procedures. In addition, it was concluded that the processes were effective.

The audit team identified one condition adverse to quality, resulting in the issuance of a corrective action report (CAR) that required corrective action in the area of real-time radiography (RTR), in which a standard waste box (SWB) had part of a glove box inside that prevented a full examination of the remaining contents of the SWB. The deficiencies identified in the CAR (discussed below) have subsequently been corrected.

Four deficiencies, isolated in nature and requiring only remedial corrective action, were corrected during the audit (CDA). Two Observations and thirteen Recommendations were also identified. The CAR, CDAs, Observations, and Recommendations are described in Sections 6.0 and 7.0.

2.0 SCOPE AND PURPOSE

2.1 Scope

The audit team evaluated the adequacy, implementation, and effectiveness of the RFETS TRU waste characterization processes for debris and homogeneous solid waste relative to the requirements contained in the HWFP, Attachments B through B6. Continued compliance was documented by completing the Attachment B6 checklist for the applicable RFETS activities. Two new activities were evaluated during the audit: Building 371 Headspace Gas Sampling Using an Automated Manifold and Building 664 Mobile Real-Time Radiography (for lead-lined drums).

The following RFETS program elements were evaluated in accordance with the HWFP:

General

Results of Previous Audits
Changes in Programs or Operations
New Programs or Activities Being Implemented
Changes in Key Personnel

Quality

Nonconformance/Corrective Action
Personnel Qualification and Training
Documents and Records
Sample Control

Technical

Solids Sampling and Analysis
Acceptable Knowledge (AK)
Headspace Gas Sampling and Analysis
Real-Time Radiography (RTR)
Visual Examination (VE)
Data Generation Level Verification and Validation
Project Level Verification and Validation and WWIS Data Entry

The evaluation of RFETS TRU waste activities and documents was based on current revisions of the following documents:

Waste Isolation Pilot Plant Hazardous Waste Facility Permit

CBFO Quality Assurance Program Document, DOE CBFO-94-1012

RFETS Quality Assurance Project Plan for the Transuranic Waste Characterization Program, 95-QAPjP-0050

RFETS Transuranic Waste Management Manual, 1-MAN-008-WM-001

Related RFETS technical and quality assurance implementing procedures

2.2 Purpose

Audit A-03-03 was conducted to assess the continued compliance of RFETS debris and homogeneous solids waste characterization and certification activities with HWFP requirements. Two new activities were evaluated during the audit: Building 371 Headspace Gas Sampling Using an Automated Manifold and Building 664 Mobile Real-Time Radiography (for lead-lined drums).

3.0 AUDIT TEAM AND OBSERVERS

AUDITORS/TECHNICAL SPECIALISTS

Charlie Riggs	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Steve Davis	Auditor, CTAC
Annabelle Axinn	Auditor, CTAC
Jack Walsh	Auditor, CTAC
Amy Arceo	Auditor, CTAC
Norman C. Frank	Auditor, CTAC
Pete Rodriguez	Auditor, CTAC
Chet Wright	Auditor, CTAC
Jim Schuetz	Auditor, CTAC
Prissy Dugger	Auditor-in-Training, CTAC
Wayne Ledford	Auditor/Technical Specialist, CTAC
Dee Scott	Auditor/Technical Specialist, CTAC
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Dick Blauvelt	Technical Specialist, CTAC
Patrick Kelly	Technical Specialist, CTAC
William (BJ) Verret	Technical Specialist, CTAC
Karen Gaydosh	Technical Specialist, CTAC

OBSERVERS

Steve Zappe	New Mexico Environment Department (NMED)
Kevin Krause	NMED
June Dreith	NMED Contractor
Robert Thielke	NMED Contractor
Connie Walker	NMED Contractor
Ben Walker	Environmental Evaluation Group
Dennis Miehls	CBFO
Martin Navarrete	CBFO

4.0 AUDIT PARTICIPANTS

RFETS individuals contacted during the audit process are identified in Attachment 1. A pre-audit meeting was held at RFETS Building 130 on March 4, 2003. Daily meetings were held with RFETS management and staff to discuss the previous day's issues and potential deficiencies. The audit was concluded with a post-audit meeting held at RFETS Building 460 on March 7, 2003.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy and Implementation

This audit was performed to assess the ability of RFETS to characterize waste from Summary Category Groups S3000 and S5000 to the requirements specified in the WIPP Waste Analysis Plan (WAP). The characterization methods assessed were headspace gas (HSG) sampling, HSG analysis, acceptable knowledge (AK), radiography, visual examination (VE), repackaging activities, and solids sampling and analysis. Also assessed were data review and validation, and the use of resulting information to perform data quality objective (DQO) reconciliation and prepare a Waste Stream Profile Form (WSPF).

The audit team concluded that the applicable RFETS TRU waste characterization activities, as described in the associated RFETS implementing procedures, are satisfactory in meeting the requirements of the HWFP. The deficiencies identified in Section 6.1 have been corrected. The supporting documentation for the closure of the CAR and the CDA items is contained in Attachment 2. Details of audit activities, including specific objective evidence reviewed, are described below and in the attached B6 checklist. The B6 checklist identifies the RFETS program documents and procedures where the WAP requirements are met. Attachment 3 contains examples of the objective evidence reviewed during the audit.

5.2 Technical Activities

Each technical area audited is discussed in detail in the following sections. The method used to select objective evidence is discussed, the objective evidence used to assess compliance with the WAP is cited briefly (and in detail on the checklist), and the result of the assessment is provided.

Each checklist question that could not be satisfactorily answered resulted in an audit deficiency. Deficiencies that were corrected during the audit are discussed in Section 6.2. A CAR was prepared to document those items not adequately addressed during the audit. A CAR allows CBFO to track RFETS' efforts to remediate the identified deficiency. The CAR resulting from Audit A-03-03, discussed in Section 6.1, has been satisfactorily closed. Each CDA deficiency and the CAR are identified on the B6 checklist tables under the corresponding item number.

5.2.1 Table B6-1 WAP Checklist

The B6-1 WAP checklist addresses program requirements from an overall management perspective. It documents the verification that the waste characterization strategy, as defined in the WAP, is implemented by using controlled procedures. This audit was performed to assess RFETS' continued ability to characterize Summary Category Group S3000 homogeneous solids waste streams and S5000 debris waste streams. Objective evidence to evaluate the implementation of the associated characterization activities was selected and reviewed. Batch data reports, sampling records, and

training documentation for TRU Waste Characterization Program (TWCP) personnel were included in the evaluation. The audit included direct observation of and/or a demonstrated walk-through of actual waste characterization activities (such as gas sampling, RTR, and WIPP Waste Information System [WWIS] data entry). Each characterization process involves:

- Collecting raw data
- Collecting quality assurance/quality control (QA/QC) samples or information
- Reducing the data to a useable format, including a standard report
- Review of the report by the data generation facility and the site project office
- Comparing the data against program DQOs
- Reporting the final waste characterization information to WIPP

The flow of data from the point of generation to inclusion in the WSPF for each characterization technique was reviewed to ensure that all applicable requirements were captured in the site operating procedures. The material in this section of the checklist is also addressed in more detail in subsequent checklist sections, where the specific procedures audited and the objective evidence reviewed are identified.

RFETS demonstrated compliance with the characterization requirements of the WAP through documentation and by demonstrating the characterization activities. The project level data verification and validation process was evaluated by reviewing the following batch data reports:

MTLS-DP-00032	VE 2003-002
SVOA-DP-00041	HGAS-DP-00418
VOCS-DP-00037	HGAS-DP-00285
VV 771-00032	VV FL DP 020
RTR 5T-0240	RTR 6T-2060

AK and the auditable record were reviewed in detail for Summary Category Groups S3000 and S5000 waste streams. The AK record was reviewed to demonstrate that the required information was present and correctly interpreted. The batch data reports cited above were used to demonstrate confirmation of AK, reconcile DQOs, prepare WSPFs, and transmit data to WIPP using the WWIS.

Visual Examination Technique (VET), referred to as Visual Verification (VV or V^2) at RFETS, was evaluated by the audit team. All the containers examined in this manner were considered as being initially packed. The containers were being packed in accordance with procedure PRO-1031-WIPP-1112, *TRU/TRM Waste Visual Verification (V^2) and Data Review.* The audit team concluded that the VET process at RFETS is satisfactorily implemented and effective.

The audit team reviewed WSPF RF128.01 and the summarized characterization information related to it to establish the objective evidence for reporting waste characterization information to WIPP. The form was completed using information from

characterization processes. As required, actual WSPFs were prepared and submitted to CBFO prior to waste shipment. The forms were reviewed and approved by CBFO when the waste streams had been fully characterized and the site was approved to ship waste.

5.2.2 Table B6-2 Solids and Soils/Gravel Sampling Checklist

This audit was performed to assess RFETS' ability to characterize Summary Category Groups S3000 and S5000 waste streams.

The audit team examined the solids sampling capabilities for waste characterization performed at RFETS. Sampling operations are being performed and documented as required by the WAP. The audit team evaluated both the cone and quarter method and the grid method of sampling. Sample collection, custody documentation, and sample packaging for shipment to the analytical laboratory were reviewed. The RFETS procedural requirement that "each sampling batch must include, at a minimum, one set of field and field duplicate samples from one waste container and a set of field samples (without field duplicate samples) from another container" was not being met (see CDA 1). Review of the data indicated that the documentation is correct and contains the required information. The overall solids sampling procedures were determined to be adequate. The audit team determined that the solid sampling process is satisfactorily implemented and effective.

The process for sample handling was evaluated at the Analytical Chemistry Laboratory (ACL). The evaluation established that sample handling at this facility was performed in accordance with procedures. The samples are stored correctly after collection and receipt and are correctly tracked as they move through the collection and analysis processes. It was concluded that the sample handling procedures are adequate and satisfactorily implemented and the process is effective. The chain-of-custody process at the ACL was examined for samples coming to the laboratory facility. The overall chain-of-custody program and procedures were determined to be adequate and satisfactorily implemented and the process is effective.

The activities being implemented to comply with specific container selection, sampling, examination, and data analysis requirements for transuranic waste were reviewed. The procedures that address these activities were determined to be adequate and satisfactorily implemented and the process is effective.

The audit team reviewed the process for total metals analysis. The activities were well executed and the personnel interviewed were knowledgeable, professional, and well trained. No concerns were identified for metals determination. The procedures were determined to be adequate and the analytical process was satisfactorily implemented and effective.

The audit team examined the procedures and processes relating to volatile organic compound (VOC) analysis of solid samples. The audit included a review of laboratory notebooks and sample preparation, and the audit team evaluated the analytical

processes. One solids data package for VOC analyses was reviewed in depth and found to be accurate and complete. Procedures used to control the processes were determined to be adequate in meeting the requirements of the WAP. The processes for analysis of VOCs were determined to be satisfactorily implemented and effective.

The audit team evaluated the procedures and processes for semivolatile organic compound (SVOC) analysis of solid samples. The audit team conducted interviews and observed the analyst conducting various steps in the processes for SVOC sample preparation and analysis. The solids data packages for SVOC analyses were reviewed in depth and found to be accurate and complete and in accordance with requirements.

Seven Recommendations in the Solids Analysis area were provided to RFETS management (see Recommendations 1, 4, 5, 6, 9, 10, and 11).

Procedures used to control the processes were determined to be adequate when compared to the requirements of the WAP. The processes for analysis of SVOCs were determined to be satisfactorily implemented and effective.

5.2.3 Table B6-3 Acceptable Knowledge Checklist

This audit was performed to assess the ability of RFETS to characterize Summary Category Groups S3000 and S5000 waste streams. Items on the AK checklist are intended to ensure that RFETS has an AK process in place to:

- Train personnel in AK data collection requirements
- Assemble AK data into a coherent narrative detailing waste generation and constituents
- Segregate waste into like waste streams
- Provide Resource Conservation and Recovery Act (RCRA) characterization for the waste streams
- Confirm RCRA characterizations using sampling and analysis
- Provide an auditable set of records to support the characterization

The AK summary documentation contained in the auditable record and container-specific information were reviewed. Traceability of the AK documentation was established by selecting a random sample of reference documents. The summary document and supporting documentation identifies the waste stream and point of generation for the containers. Several of the references were selected to ensure they are available in the auditable record and to see if the source documents support the characterization determination. These sources include such items as published reports, process flow diagrams, interviews with site personnel concerning use of hazardous materials, and reports of previous waste characterization sampling and analysis efforts.

The AK process was evaluated by reviewing the AK summary for the subject waste stream in RMRS-WIPP-98-100, *Acceptable Knowledge TRU/TRM Waste Stream Summaries,* and RF/RMRS-97-018, *RF/RMRS Acceptable Knowledge Supplemental Information*. The auditable record was searched to ensure that the cited references were available and that the reviewer could come to the same hazardous waste determination as presented in the AK summary. Several drums were selected and the AK information for each was traced from the summary to the point of generation.

The AK process includes provisions to identify information that conflicts with what is expected in a waste stream (confirmation processes) and a method by which these conflicts can be resolved (reconciliation). The discrepancy resolution procedures are PRO-484-WIPP-003, *Collection, Review, and Confirmation of Acceptable Knowledge Documentation,* and 4-H19-WSRIC-001, *WSRIC Characterization and Reverification.* Reassessments for several drums were reviewed (Document Change Forms WF24-009-2001, WF33-001-2001, and WF52-060-2003) (see Attachment 3).

RFETS has an extensive process for collecting waste characterization information. Each waste-generating process in each building is described in detail in the waste stream residue identification and characterization (WSRIC) Building Books. All material inputs to a process are listed, the output products are identified, and the wastes generated are discussed in detail. RFETS Procedures PRO-484-WIPP-003 and 4-H19-WSRIC-001 provide for the comprehensive segregation of waste into discrete waste streams. The Building Books contain a readily accessible store of documentation to allow the site to investigate waste generation processes for all of the waste streams that RFETS expects to eventually certify for disposal at WIPP.

The AK checklist was completed, in part, by reviewing two documents: RMRS-WIPP-98-100, *Acceptable Knowledge TRU/TRM Waste Stream Summaries,* and RF/RMRS-97-018, *RF/RMRS Acceptable Knowledge Supplemental Information.* Additional supporting documentation such as the AK Accuracy Report, container reassessment memos, and the AK source document review summaries, are contained in Attachment 3 to support the entries in Table B6-3.

RFETS WSPF RF129.05 for TRU Heterogeneous Debris Waste, RF128.01 for Transuranic Mixed (TRM) Plutonium Fluoride, and RF011.01 TRU Insulation Debris Waste, and the information related to them, were reviewed to establish the objective evidence for reporting characterization information to WIPP. Procedure PRO-944-WIPP-008, *Completion of Waste Stream Profile Form for Waste to be Disposed of at WIPP*, was evaluated during the audit.

The procedures cited above, which are used by the site to assemble, evaluate, document, and reconcile sampling and analysis results, were reviewed for adequacy, and their implementation was assessed during the audit. The AK requirements include the procedure content and specific requirements to ensure that the AK summary includes all mandatory information required by the WAP.

Reports and records used to document the basis of RFETS AK were evaluated during the audit. Attachment 3 contains copies of pages used as objective evidence. The reports were found to be satisfactory and the records are being properly maintained as QA records. The AK documentation reviewed is listed in Attachment 3.

The audit team concluded that RFETS was satisfactorily using sampling and analysis data to confirm the waste characterization designations made using AK. RFETS has an adequate process in place to resolve discrepancies and document changes. Waste characterization designations were confirmed by reviewing the batch data reports documenting the characterization activities. If the characterization results are not supported by the AK waste stream description, a nonconformance report (NCR) is prepared. HSG confirmation is performed at the site project level during preparation of the WSPF. The site is making conservative assignments of hazardous waste designations.

No conditions adverse to quality were noted in this area during the audit. The audit resulted in one Observation (see Section 7.1, Observation 1) and three Recommendations were presented to RFETS management (see Section 7.2, Recommendations 2, 12, 13).

The audit team concluded that RFETS is satisfactorily implementing the AK process to delineate, characterize, and confirm the characterization of waste for disposal in accordance with WIPP WAP requirements and the process is satisfactorily implemented and effective.

5.2.4 Table B6-4 Headspace Gas Checklist

Audit 03-03 was performed to assess the ability of RFETS to characterize Summary Category Groups S3000 and S5000 waste streams. HSG sampling and analysis operations at RFETS were evaluated by observations, walk-through demonstrations, interviews, and review of documentation.

Since the last CBFO recertification audit (A-02-07), HSG Sampling and Analysis operations have been updated from canister/manifold sampling and gas chromatography/mass spectrometer (GC/MS) analysis to the use of the Los Alamos National Laboratory (LANL) HSG sampling and analysis manifold units, and the location has changed from Building 559 to Buildings 440 and 371. Since data were produced under both methods, the audit team evaluated both the old and the new methods.

For the canister/manifold method (old method), the audit team examined data packages, HVOC-DP-00501, and supporting documentation such as logbooks, standard certifications, and laboratory records. Training was verified and found to be adequate. Procedures related to HSG sampling and analysis via this method were formally cancelled, effective October 2002.

For the online method (new method), a walk-through was performed in Building 440 on March 5, 2003, for the two existing units, and a walk-through was performed for the

(new) unit in Building 371 on March 6, 2003. HSG sampling and analysis using the online method was demonstrated to the audit team. Two data packages were examined for work performed in Building 440 (HGAS-DP-00392 and HGAS-DP-00462) and no problems were noted. One data package from work performed in Building 371 (HGAS-DP-00465) was examined and no concerns were noted. Training was verified and found to be adequate. Instrumentation was examined, calibrations checked, drum age criteria verified, laboratory notebooks audited, and standards verified.

RFETS does not use the direct canister sampling method and does not collect samples by breaching the drum lid. These techniques were not audited and are not approved for use by RFETS. RFETS does not ship samples off-site.

Many of the questions on the B6-4 checklist involve the techniques, handling, and quality controls associated with sampling. Equipment is controlled to ensure that it does not contaminate the sample.

Sample collection is assessed by collecting QC samples and evaluating sample data against specific quality assurance objectives (QAOs). Sampling QAOs are assessed after the QC samples are analyzed and documented in the analytical batch data report.

The processes used to clean, leak-check, and maintain sampling equipment were evaluated and determined to adequately meet WAP requirements. Copies of pages from the field records are located in the batch data reports included in Attachment 3. Review of the batch data reports showed that compliance with the WIPP WAP requirements and with RFETS plans and procedures has been successfully implemented in both the technical and QA areas. The batch data reports that serve as objective evidence for implementation of some activities of the B6-4 checklist are included in Attachment 3.

No conditions adverse to quality were noted in this area during the audit. No CDAs, Observations, or Recommendations resulted from this area of the audit.

The audit team concluded that the HSG sampling and analysis process at RFETS is satisfactorily implemented and effective.

5.2.5 Table B6-5 Radiography Checklist

This audit was performed to assess the ability of RFETS to characterize Summary Category Groups S3000 and S5000 waste streams. RFETS radiography operations were performed using three RTR systems located in Buildings 664 and 569 and a Mobile Unit. At the time of the audit, the system in Building 569 was being dismantled. These units can provide imaging of both drums and boxes. They have controls to allow the operator to enhance the image quality of the radiograph, annotate the videotape with text, provide narration with video, rotate the drum as it is imaged, enlarge the image, and pan up and down the container. These systems allow site personnel to view drums and boxes while recording the examination on audio/videotape.

The Table B6-5 radiography checklist was completed by assessing operating procedures 4-I19-NDT-00569, *RTR Testing of Transuranic and Low-Level Waste in Building 569,* 4-W30-NDT-00664, *RTR Testing of Transuranic and Low-Level Waste in Building 569* and PRO-1520-Mobile-RTR, *Mobile Real-Time Radiography Testing of Transuranic and Low-Level Waste.* The RTR operations in Building 664 and the Mobile Unit were observed, including the examination of two lead-lined containers **(new)**. Videotapes of the operations were reviewed, and the resulting documentation was evaluated. Batch data reports 6T-2121, 5T-0200, 6T-2072, 5T-0323, MT0003, 5T-0259, 5T-0123, 6T-2090, 5T-0305, 5T-0313, 6T-1702, and 6R-023 are included in Attachment 3. Training course material and the RTR test drum evaluations were reviewed for adequacy.

The RTR process was observed in Building 664 and the Mobile Unit. Batch data reports and RTR videotapes were selected and reviewed to evaluate RTR process documentation.

Radiography equipment maintenance and daily checks were evaluated in accordance with the WAP requirements as described in the three RTR procedures. These were found to be satisfactory. Radiography results are properly reported on standard forms and are adequately reviewed, as required by the WAP. Copies of the forms are included in the batch data reports in Attachment 3.

In data package 5T0200, SWB S00814 had a glove box inside which prevented full examination of the remaining contents (see CBFO CAR 03-041). In data package 5T-0259, the replicate scan and the independent observation were performed on the same drum (D90988). Data package 5T-0305, Drums DD1161, DD1111, DD1172, DB2075, DD1164, and DD1114, all indicate that the waste management codes (WMCs) are unknown (see CDAs 3 and 4).

Minor issues related to the confirmation of the waste stream description and the addition of numbers to data sheets after they have been reviewed are identified in Sections 7.1 and 7.2 (see Observation 2 and Recommendations 7 and 8).

The audit team concluded that radiography processes are adequate, satisfactorily implemented, and the process is effective.

5.2.6 Table B6-6 Visual Examination Checklist

This audit was performed to assess the ability of RFETS to characterize Summary Category Groups S3000 and S5000 waste streams. Visual examination (VE) includes both the QC check performed on radiography results and observations made during initial waste packaging and repackaging. RFETS was audited to determine the effectiveness of VE as the QC check on RTR. VE activities performed to verify radiography are recorded on audio/videotape and documented on standard forms.

RFETS VE activities were evaluated by interviewing personnel, reviewing videotapes, and evaluating VE batch data reports VE-2003-002, VE-2003-004, VE-2002-003 and VE-2002-001. These batch data reports are included in Attachment 3.

The VE procedures are PRO-1608-VECRTR-371, *RTR Visual Examination Confirmation, Building 371,* and PRO-1471-VE-771, *Visual Examination for the Confirmation of RTR.* The procedures were found to be adequate in meeting WAP requirements.

The random selection procedure, PRO-945-WIPP-009, *RCRA Characterization of TRU Waste to be Disposed of at WIPP,* which is used to select drums to confirm radiography results, was audited. Procedure PRO-940-WIPP-010, *WIPP TRU Waste Characterization Project Level Data Review and Reporting*, used to determine the miscertification rate for the site, was also assessed.

The training course content for operators and VE experts was reviewed to verify that all WAP requirements were captured in the course. The course material is included in Attachment 3. No deficiencies were noted in this area.

One conditions adverse to quality was noted in this area during the audit resulting in a CDA (CDA 2). One Recommendation was provided to RFETS management (see Recommendation 3 in Section 7.2).

The audit team concluded that RFETS VE processes are adequate, satisfactorily implemented, and the VE process is effective.

5.3 General

5.3.1 Results of Previous Audits

The Observations and CARs resulting from the last CBFO recertification audit (A-02-07) were examined to determine if the conditions had been corrected. There was no indication of a recurrence of any of the previously identified deficiencies.

5.3.2 Changes in Programs or Operations

The HWFP portions of the audit were performed to the latest B6 checklists, which incorporate all Class 1, Class 2, and Class 3 modifications to the HWFP.

5.3.3 New Programs or Activities Being Implemented

CBFO Audit A-02-12 (additional NDA systems) and CBFO Audit A-02-05 (additional HSG and VE processes) have been approved by the EPA and NMED, respectively, since the last recertification audit. CBFO Audit A-02-19 (newly generated waste, mobile RTR unit, and additional NDA system) was approved by EPA and NMED. CBFO Audit A-03-02 (new VE Facility Building 371) and CBFO Audit A-03-04 (new VE Facility

Building 440 and solid sampling of tank sludges) were awaiting approval by NMED at the time of Audit 03-03 (both were approved by NMED on March 21, 2003).

5.3.4 Changes in Key Personnel

RFETS has not changed any key personnel since the last HWFP recertification audit (A-02-07). RFETS has added alternate key personnel to support increased characterization and certification activities.

6.0 SUMMARY OF DEFICIENCIES

6.1 Corrective Action Reports

During the audit, the audit team may identify Conditions Adverse to Quality (CAQ) and document such conditions on CARs.

Condition Adverse to Quality (CAQ) – Term used in reference to failures, malfunctions, deficiencies, defective items, and nonconformances.

Significant Condition Adverse to Quality – A condition which, if uncorrected, could have a serious effect on safety, operability, waste confinement, TRU waste site certification, compliance demonstration, or the effective implementation of the Quality Assurance (QA) program.

One CAR (described below) was initiated during the audit. Those conditions adverse to quality have been corrected by RFETS (see Attachment 2).

CBFO CAR 03-041

In data package 5T0200, SWB S00814 had a glove box inside which prevented full examination of the remaining contents. The SWB was not rejected.

A waste nonconformance report (WNCR W-03-0332) was written against SWB S00814. Shipments of waste from Waste Profile #RF102.31, TRM Metal Debris with Lead Shielding, were curtailed until the CAR was closed by CBFO.

RFETS Procedures 4-W30-NDT-00664, *RTR Testing of Transuranic and Low-Level Waste in Building 664* and PRO-1520-Mobile-RTR, *Mobile RTR Testing of Transuranic and Low-Level Waste* were revised to clarify what is meant by full examination. The revisions also describe the activities to be undertaken if a full examination cannot be achieved. Training was conducted on the revised procedures.

6.2 Deficiencies Corrected During the Audit

During the audit, the audit team may identify CAQs. The audit team members and the Audit Team Leader (ATL) evaluate the CAQs to determine if they are significant using the following definitions:

CAQ – Term used in reference to failures, malfunctions, deficiencies, defective items, and nonconformances.

Significant CAQ – A condition which, if uncorrected, could have a serious effect on safety, operability, waste confinement, TRU waste site certification, compliance demonstration, or the effective implementation of the QA program.

Once a determination is made that the CAQ is not significant, the audit team member, in conjunction with the ATL, determines if the CAQ is an isolated case requiring only remedial action and therefore can be CDA. Upon determination that the CAQ is isolated, the audit team member, in conjunction with the ATL, evaluates/verifies any objective evidence/actions submitted or taken by the audited organization and determines if the condition was corrected in an acceptable manner. Once it has been determined that the CAQ has been corrected, the ATL categorizes the condition as a CDA according to the definition below.

CDAs – Isolated deficiencies that do not require a root cause determination or actions to preclude recurrence. Correction of the deficiency can be verified prior to the end of the audit. Examples include one or two minor changes required to correct a procedure (isolated), one or two forms not signed or not dated (isolated), and one or two individuals that have not completed a reading assignment.

CDA 1

Ash sampling batch AR-SB-1002 involved the sampling of only one container. The cone and quartering sampling plan, RS-012-005, R3, Section 3.3.1, requires that "each sampling batch must include, at a minimum, one set of field and field duplicate samples from one waste container and a set of field samples (without field duplicate samples) from another container."

Document Change Form (DCF) 03 was issued to RS-012-005, Rev. 3, to remove this unnecessary requirement. The DCF has been approved by RFETS and CBFO.

CDA 2

In data package VE-2003-02, changes were made to data (TRUCON codes) after all V&V activities were complete.

All V&V activities were repeated on March 5, 2003.

CDA 3

In data package 5T-0259, the replicate scan and the independent observation were performed on the same drum (D90988).

Another drum (D87906) was selected and the independent observation was redone.

CDA 4

In data package 5T-0305, Drums DD1161, DD1111, DD1172, DB2075, DD1164, and DD1114, all indicate that the WMC's are unknown.

It was determined that the subject drums were actually low-level drums and did not have WMCs associated with them.

7.0 SUMMARY OF OBSERVATIONS AND RECOMMENDATIONS

During the audit, the audit team may identify potential problems or suggestions for improvement that should be communicated to the audited organization. The audit team member, in conjunction with the ATL, evaluates these conditions and classifies them as Observations or Recommendations using the following definitions:

Observation – A condition that, if not controlled, could result in a CAQ.

Recommendations – Suggestions that are directed toward identifying opportunities for improvement and enhancing methods of implementing requirements.

Once a determination is made, the audit team member, in conjunction with the ATL, categorizes the condition appropriately.

7.1 Observations

The following Observations were provided to RFETS management.

Observation 1

AK identified 23 item description codes (IDCs) for which RTR or VE could not accurately assess the waste material parameter weights. Additional AK was collected for 13 of these IDCs and this information was compiled in Table 4-27 of RF/RMS-97-018. The other 10 IDCs were flagged for further research, but this work was never done. Further AK information for these IDCs should be compiled in accordance with the AK procedure for compiling information on waste material parameters, PRO-484-003 R. 4 Chg 1., Section 6.2.1.

Observation 2

During RTR, RFETS confirms the IDC and WMC of the waste being examined. This confirmation is sufficient to confirm the waste matches the waste stream description during RTR, as required by the WAP for the waste streams currently being characterized by RFETS. As new waste streams are subjected to characterization, RFETS needs to ensure that confirming the IDC and WMC continues to be sufficient to confirm the waste stream description during RTR.

7.2 Recommendations

The WAP-related Recommendations provided to RFETS management during the audit are presented below.

Recommendation 1

During sampling, RFETS collects backup VOC samples, designated as "B" samples. These are not recorded on the sampling data sheets and therefore could not be used for WIPP characterization if the primary samples were unusable. It is recommended that RFETS record the "B" samples on the sampling data sheet.

Recommendation 2

Documentation of the identification and resolution of discrepancies in the AK record is not systematized and cannot be easily retrieved. A unique identifier that facilitates retrieval is recommended.

Recommendation 3

Data package VE-2003-02, containing data for four drums (D92508, D88494, D93718, DB7613), showed that VE started in Building 440 and was moved to Building 771 due to contamination issues. It is recommended that an explanation for the move be documented in the data package.

Recommendation 4

At present, the balance used to weigh sample aliquots is checked with 50, 100 and 150 g weights. However, the sample (4 g) is weighed using a volatile organic analysis (VOA) vial (15 g). It is recommended that the balance be checked with a weight (for example, 20 g) more appropriate to the intended use of the balance.

Recommendation 5

The information provided in Procedure L-4165 for the trap column does not reflect the information provided on the trap column manufacturer data sheet. It is recommended that the procedure be revised to correct this discrepancy.

Recommendation 6

The quality of reagent water is assessed by measurement of conductivity. The conductivity meter used is an in-line meter that is not checked for accuracy. It is recommended that the accuracy of the in-line meter be periodically verified.

Recommendation 7

It is recommended that a line be added to the waste characterization RTR to show tare weight to be subtracted from gross weight. Also, the QC replicate block on the form should specify that comparison between the original and replicate scans is to be performed by the independent technical reviewer/technical specialist (ITR/TS).

Recommendation 8

It is recommended that when numbers are added to RTR data sheets after the form has been reviewed and approved, a notation be provided describing why they were added.

Recommendation 9

At present, a bromofluorobenzene (BFB) tune solution is made with water for alcohols analysis and with methanol for VOC analysis. It is recommended that a single BFB tune solution be made for both analyses.

Recommendation 10

Worksheet 5, Continuing Calibration Review, lists Relative Response Factors (RRFs) for target analyses. The next column requires a "yes" or "no" answer if the RRFs meet requirements. At present, this column is not completed. It is recommended that this column be completed to indicate that this item was reviewed and was acceptable.

Recommendation 11

Worksheet 11, LCS Results, has a note at the bottom of the table that says that % recovery results are rounded to 1 significant figure. In fact, the recoveries are rounded to one decimal place. It is recommended that this note be corrected.

Recommendation 12

It is recommended that RFETS review the AK Procedure PRO-484-WIPP-003, Rev. 4, Chg. 1, against the requirements of the WAC Appendix A for collection of AK radionuclide data, and provide additional advice in the procedure.

Recommendation 13

It is recommended that the AK accuracy report specify the period that each characterization element "covers" (for example, "all NDA up to and including June 30, 2002 data"). Some characterization elements have no time periods cited. It would also be beneficial if the report covered the same time period for all elements, but this is not necessary as long as it does not result in data being missed.

8.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During the Audit and the List of Documents Audited
Attachment 2: Corrective Action Supporting Documentation
Attachment 3: Objective Evidence
Attachment 4: Audited RFETS Implementing Procedures

ATTACHMENT 1
PERSONNEL CONTACTED DURING THE AUDIT

RFETS PERSONNEL CONTACTED DURING AUDIT A-03-03				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Almon, John	KH; MS ESH&Q	X		X
Anguiano, Joe F.	Waste Inspection; Waste Insp Prog Mngr	X		
Armour, Faith	SOM; Records Specialist		X	X
Atencio, Leonard	371 D&D Waste Ops; Supervisor		X	
Ballenger, Roger J.	TRU Program; Manager Residues, Audit Program	X	X	X
Barone, Gary S.	KH; Steel Worker		X	
Behanna IV, Jim	Measurements; SME/TGS/NMC		X	
Blanchard, Cindy	B559; Lab Tech		X	
Brugh, Mark	B559 Labs; Manager-Lab	X	X	
Cameron, Michelle	Cal/Gamma-measurements; Chemist	X	X	
Carson, Pete	TRU Program; Engineer	X	X	
Casella, Frank	QA Manager	X		X
Chinn, Mary Ann	371 KH HSGS; D&D Skilled		X	
Cichorz, Roger	Analytical Services; Project Lead		X	
Clapham, Martin	RFETS-Measurements; Physicist	X	X	
Clark, Joe	MS; Inspector		X	
Clements, A. T.	Waste Cert./AWCO		X	
D'Amico, Eric	TRU Program; Site PM Alternate	X	X	X

RFETS PERSONNEL CONTACTED DURING AUDIT A-03-03				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
	Alternate			
Dahl, David	MS; QA/QE	X	X	X
Dingman, Cynthia	NDA Measurement		X	
Dockter, Jim	D&D; Foreman		X	
Dononoue, T. P.	NDA Measurements; Technical Supervisor		X	
Dreher, David	KH; NDA OPS MGR		X	
Dunkel, Robert D.	Traffic Mgmt; Sr. Spec		X	
Durcholz, Mary	Waste Systems; WEMS Administrator		X	
Durel, Med	KH; Measurements		X	
Echelard, Tim	RFCSS/Metrology Center; Mgr Site Wide Maintenance		X	
Edmiston, Douglas	LATA; GGT MGR	X	X	
Engholm, Eric L.	MS; D&D Skilled Trades		X	
Eschenbaum, R. A.	TRU Program; SR Prin Engineer	X		X
Farris, Thomas	NDA; Database Administrator		X	
Ferrera, Carol	KH TWCP QAO	X	X	X
Fisher, Doug	B371 Residue; Tech Lead	X	X	
Gerlock, Chad	NDA Operator		X	
Gilbreath, Chris	KH; 774 Project Manager		X	
Gillespie, Doyle	KH Quality Program; QA Engineer	X	X	X
Goldsby, Tom	NDA Technical Supervisor		X	

RFETS PERSONNEL CONTACTED DURING AUDIT A-03-03				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Gorman, Lee	WRG; Wst Req Rep	X	X	X
Grady, Frank	TRU Programs; TRU Project Engineer	X	X	X
Green, Lonnie	MS; HRT		X	
Greenwood, Claire	KH; Headspace		X	
Guadagnoli, John	Cal/Gamma-measurements; Manager	X	X	
Guthrie, David E.	Rad Labs; LPQAO	X	X	
Guthrie, Vern	KH; Tank 207 Project Mgr		X	
Guyn, Terry	PEQA; Lead Auditor		X	
Hale, T.	MS; Supervisor		X	
Harrison, Jeff	TRU Programs; Eng AK	X	X	X
Hillman, Dan	ASD Sample Control B130; AST Database Admin.		X	
Hinkhouse, Cheryl	CA/PATS; Administrator		X	
Hodram, Rick	NDA Technical Supervisor		X	
Horton, Julianne	Waste Req Group; Waste Req Rep	X		
Hubbard, Laura	TWCP; Data Validation Physical Scientist	X	X	X
Hunter, Duane	KH/Labs; Manager	X		X
Ideker, Virgene	Analytical Services, Manager	X		X
Jennings, Mike	TRU Programs			X
Jenson, Roger	Rad Labs; HRT		X	
Jordan, Bruce	Labs; Lab Tech		X	

RFETS PERSONNEL CONTACTED DURING AUDIT A-03-03				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Kachun, Mark S.	Cal Gamma; QAO		X	
Kaiser, Stephen	371 KH HSGS; HRT		X	
Kangas, Mark	TRU Waste Programs; Sr Principal Engineer		X	
Kirchner, Ken	Waste Systems; WEMS Administrator		X	
Kirk, Nancy	MSQA; QA Engineer	X	X	X
Kirschenmann, Harley	SMQA; Acting Manager	X	X	X
Kocsis, Frank	SOM; Program Manager	X		X
Kunz, Dan	Procurement Support; Mgr		X	
Laurent, Judith	Rad Labs; HRT		X	
Leifer, John	TRU Program: Project Scientist	X	X	X
Lewis, Leslie	TRU Waste Program; TRUPACT-II SME		X	
Long, Jerry	MS; Deputy PM			X
Luoma, Chris	Waste Systems; WEMS Administrator		X	
Mai, Esther L.	SOM; Records Specialist		X	
Malloy, Randy	Tech. Support	X	X	
Marler, Eric	Waste Systems		X	
Mascarenas, Robert	SSOC; NDA Supervisor		X	
Mattson, Marty	Edison ESI/Metrology; Data Administrator		X	
Maum, G. E.	B440 WIPP Ops; Foreman		X	
Mazza, Yvonne	Labs; Metal Chemist	X	X	

RFETS PERSONNEL CONTACTED DURING AUDIT A-03-03				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
McCarthy, Edward	Operations Manager Bldg. 440	X		X
McCoy, Ruby	D&D; Tech		X	
McGavin, Andrew	SOM; Manager, Document Control/Procedures	X		X
McKinney, Ruth	Source One; Exec VP	X		X
Melberg, Tim	PEQA; Manager		X	
Melick, George	KH; NDT Tech		X	
Mensik, Mark	QAO- HSGS	X	X	
Miranda, Sue	MS Visual Exam; VEE		X	
Moore, Valerie M.	Cal/Gamma-measurements; Chemist	X	X	
Morales, Bart	NDA Meas. Support; Engineer		X	
Myers, Carla	B559; Sample Receipt		X	
Nishimota; Sue	MS		X	
Nolan, Lisa	Labs; Lab Tech		X	
Nolan, Thomas C.	LATA/Rad Lab; Chemist		X	
North, Harry (Dru)	RCT		X	
O'Leary, Jerry	KH/TRU Waste Project Manager	X	X	X
Oetken, Martha	B559; Tech Support		X	
Owens, Michael G.	Procurement Programs; Manager		X	
Paez, Ozzie	NDA Measurements; SQA SME		X	X

RFETS PERSONNEL CONTACTED DURING AUDIT A-03-03				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Papp, Michael J.	Waste Systems (AK); BWR Program Lead		X	
Perkins, Ed	Skill Trades; HRT		X	
Peterson, Ruth	RFCSS; Transportation Specialist		X	
Pigeon, Paul	MS/Training Programs; TWCP Training Officer	X	X	X
Podolsky, Stewart	ASD; QA Lead	X	X	
Potter, Gary	Measurements Manager	X		X
Randleman, Lee	707Waste Intergration; Tech Support		X	
Reinhart, Doug	707/776 Waste Integ; Tech Support		X	
Renslow, J. A.	KH; NDT Tech		X	
Richardella, Robert	RISS; Project Manager	X		X
Rivera, Mike	Orphan Waste; Proj Lead	X	X	
Roach, Patti	Organic Chemist	X	X	
Robbins, Elver	DOE/RFFO/QPD; Engineer	X		
Robinson, Gary	KH; NDT Tech		X	
Robledo, Ron	TRU Programs; Consultant		X	
Rodgers, Alan	KH/Deputy Material Stewardship	X		X
Roth Jr., John	061 Warehouse; HRT		X	
Ryan, John T.	NDA Technical Supervisor		X	
Sandistevan, Veronica	Waste Systems; WEMS Administrator		X	

RFETS PERSONNEL CONTACTED DURING AUDIT A-03-03				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Sayler, Cheryl	WC&O; WNCR Coord	X	X	
Schneider, John	DOE RFFO Projects	X		X
Schoen, Jim	Waste Systems; WSRIC Program Lead		X	
Schoenberger, Rick	371 Waste; Eng/SME		X	
Schotz, Jeff	RFCSS; Supervisor		X	
Seamans, James	BNFL: Inst. Physicist		X	
Seipp, Doug	Labs; Lab Tech		X	
Sendelweck, Vivian	TRU Programs; AK SME	X	X	X
Shannon, Robert	Deputy Manager Building #559 Labs	X	X	X
Sisk, Susan	MSQA; QA Engineer	X	X	X
Slottke, Ronald J.	KH; Div Mgr Procurement	X	X	X
Smart, Kim	KH/IRM; Manager	X		X
Smith, Patrick	MSQA; QAE		X	
Spears, Mark	KH; VP/Project Manager	X		X
Steinbrunn, Thomas	D&D Tech		X	
Stewart, Judith	Measurements; NDA WIPP Interface	X	X	X
Straub, Elizabeth	Procurement; Procurement Agent		X	
Stunson, Ernie	Edison ESI/Metrology; Project Mgt		X	
Tallman, Steve	RFCSS; NDT Manager	X	X	
Taylor, L. P.	130 Warehouse; Ops Mgr		X	

RFETS PERSONNEL CONTACTED DURING AUDIT A-03-03				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Taylor, Lou	Warehouse Ops; Manager		X	
Thiel, R. D.	ROL/SSOC; Sr Principal Chemist		X	
Timbers, Peter J.	LATA; GGT Chemist	X	X	
Tressell, John	MSQA; TRU Waste QA, PQAO Alternate		X	X
Trivett, Airrus	IT; QA Manager	X	X	
Turner, Charles A.	MS; Headspace Manager	X	X	X
Uchida, Bruce	HRT, WIPP		X	
Walker, Randy	Waste Manager	X	X	
Warfield, David	Measurements Technical Lead	X	X	X
Weisel, Tim	AWS; Supervisor		X	
Wiebe, K. Mark	707/776 Waste Int; Waste Characterization SME		X	
Wilson, Jeff	Waste Systems; WEMS Administrator		X	
Winkler, Paul	TSC; Lead Organic Chemist	X	X	X
Wolfe, Mike	SOM; Waste Records Center Manager	X		X
Wood, M. F.	Waste requirements 707		X	
Xuan, Lam	DOE/RFFO/TRU Waste Manager	X		X

Personnel Contacted During the Audit by Area

Nonconformance/Corrective Action	Carol Ferrera John Tressell Cheryl Sayler Cheryl Hinkhouse Doyle Gillespie Harley Kirchermann
Personnel Qualification and Training	Paul Pigeon
Documents and Records	Faith Armour Andrew McGavin Doyle Gillespie Susan Sisk
Sample Control	Carla Myers Lisa Nolan Martha Oetken
Solids Sampling	Roger Ballenger Doug Fisher John Leifer Pete Carson
Solids Analysis	David E. Guthrie Judith Laurent Roger Jensen Yvonne Mazza Lisa Nolan Bruce Jordan Doug Seipp Mark Brugh Nancy Kirk Paul Winkler Patti Roach Carla Myers Cindy Blanchard Roger Cichorz Dan Hillman Stewart Podolsky Robert Shannon Martha Oetken
Acceptable Knowledge	Jeff Harrison Vivian Sendelweck Roger Ballenger Eric D'Amico Eric Marler Carol Ferrera
Headspace Gas Sampling and Analysis	Charles Turner R. D. Thiel Mark Mensik Claire Greenwood Randy Malloy Mary Ann Chinn Stephen Kaiser Leonard Atencio

Personnel Contacted During the Audit by Area

Real-Time Radiography	J. A. Renslow G. Melick Franmk Grady Steve Tallman Gary Robinson Faith Armour
Visual Examination	Ron Robledo Sue Mirando Susan Sisk Roger Ballenger Mark Kangas Lee Randleman Randy Walker Doug Reinhart K. Mark Wiebe M. F. Wood Jim Dockter Carol Ferrera Lee Gorman Ruby McCoy Thomas Steinbrunn
Verification and Validation	Laura Hubbard Carol Ferrera John Tressell

RFETS DOCUMENTS AUDITED FOR A-03-03		
No.	**Procedure Number**	**Title**
1.	PRO-484-WIPP-003	Collection, Review, and Confirmation of Acceptable Knowledge
2.	RMRS-WIPP-98-100	Acceptable Knowledge TRU/TRM Waste Stream Summaries
3.	RF/RMRS-97-018	RF/RMRS Waste Acceptable Knowledge Supplemental Information
4.	1-C80-WO-1102-W/RT	Waste/Residue Traveler instructions
5.	PRO-543-ASD-002	Initiation, Preparation, and Implementation of COC Forms
6.	PRO-908-ASD-004	On-Site Transfer and Off-Site Shipment of Samples
7.	5-NDT-TC-1A	Training, Qualification, and Certification of Nondestructive Testing Personnel
8.	4-I19-NDT-00569	RTR Testing of Transuranic and Low-Level Waste in Building 569
9.	4-K47-WEM-WP1210	WEMS Offsite Shipping Module
10.	4-W30-NDT-00664	RTR Testing of Transuranic and Low-Level Waste in Building 664
11.	L-1000	Requirements for Radiological Laboratories L-Procedures
12.	PRO-815-DM-01	Developing, Maintaining, and Controlling Documents
13.	L-4026	Records Handling, Storage & Retrieval for the WIPP Project File
14.	PRO-767-WIPP-001	Waste Records Center Processing
15.	1-PRO-079-WGI-001	Waste Characterization Generation and Packaging
16.	4-H19-WSRIC-001	WSRIC Characterization and Reverification
17.	95-WP/SAP-001	Transuranic (TRU/TRM) Waste Sampling Plan
18.	PRO-943-WIPP-007	TRU Waste Characterization Program Conditions Adverse to Quality Trending and Analysis
19.	1-A65-ADM-15.01	Control of Nonconforming Items
20.	PRO-U76-WC-4030	Control of Waste Nonconformances
21.	PLN-97-007	TRU Waste Characterization Program Training Implementation Plan
22.	PRO-264-RS-0141	Data Review and Verification of Residue Repack Batch Reports
23.	PRO-544-SALT REPACK-371	Residue Repack, Building 371
24.	PRO-603-RS-0152	Data Review and Verification of Repack Sampling Batch Reports

RFETS DOCUMENTS AUDITED FOR A-03-03		
No.	**Procedure Number**	**Title**
25.	PRO-860-RS-0156	Repack Sampling, Building 371
26.	RS-012-004	Grid Method – Repack Solid Sampling and Analysis Plan
27.	RS-012-005	Cone & Quartering Method – Repack Solid Sampling and Analysis Plan
28.	1-M12-WO-4034	Solid Radioactive Waste Packaging Requirements
29.	4-D99-WO-1100	Solid Radioactive Waste Packaging
30.	PRO-1018-SWB-371	Standard Waste Box Drum Selection and Grouping
31.	PRO-1031-WIPP-1112	TRU/TRM Waste Visual Verification (V2) and Data Review
32.	PRO-1411-WO-WASTE	Waste Receiving, Handling and Transfer
33.	PRO-1471-VE-771	Visual Examination for Confirmation of RTR, B771
34.	PRO-284-POC-001	Pipe Overpack Container Initial Assembly Process
35.	PRO-823-REPACK-371	Combustible Residue Repackaging
36.	PRO-830-DRUM-371	Drum Loading into Standard Waste Boxes
37.	PRO-W90-FO-0103	Balances
38.	L-1006	Maintenance Records for analytical Instrumentation
39.	L-4035	Metals Data Validation and Verification
40.	L-4038	WIPP Data Review and Validation for Volatile Organic Compounds
41.	L-4039	WIPP Data Review and Validation for Semi-Volatile Organic Compounds in Solid Samples
42.	L-4150	Total Metals Acid Digestion Procedure of Solid, Liquid, and TCLP Extract Samples
43.	L-4151	Waste Analysis by Atomic Absorption Spectroscopy
44.	L-4152	Mercury Analysis in Waste (Cold-Vapor Technique)
45.	L-4153	Trace Metals by ICP Spectrometry (Solids, Liquids, and TCLP Extracts)
46.	L-4165	GC/MS Determination of Volatile Organic Compounds
47.	L-4214	Extraction of Total SVOCs for GC/MS Analysis for WIPP

RFETS DOCUMENTS AUDITED FOR A-03-03		
No.	**Procedure Number**	**Title**
48.	L-4215	GC/MS Determination of Total SVOCs for WIPP
49.	ASD-003	Identification System for Reports and Samples
50.	PRO-1351-440-SWB	Room 113 Perma-Con Operations
51.	PRO-944-WIPP-008	Completion of Waste Stream Profile Form for Waste to be Disposed of at WIPP
52.	PRO-945-WIPP-009	RCRA Characterization of TRU Waste to be Disposed of at WIPP
53.	PRO-940-WIPP-010	WIPP TRU Waste Characterization Project Level Data Review and Reporting
54.	4-F72-WEM-WP1205	WEMS and WSRIC Software Quality Assurance Compliance
55.	L-4052	Headspace Gas Sampling and Analysis Using an Automated Manifold Qualification Plan and Test
56.	L-4053	Headspace Gas V&V (Data Generation Level)
57.	L-4217	Metals Analysis Data Compilation and Reporting
58.	L-4231	Headspace Gas Sampling and Analysis Using an Automated Manifold
59.	PRO-1520-Mobile-RTR	Mobile Real-Time Radiography Testing of Transuranic and Low-Level Waste
60.	RS-020-012	Ash Residue Repack, Process Control Plan
61.	RS-020-013	Dry Residue Repackaging Process Control Plan
62.	RS-020-018	Combustible residue Repackaging Process Control Plan
63.	RS-020-021	Salt Residue Repack, Buildings 371 and 707 Process Control Plan
64.	PRO-717-HDGAS-S&A	Headspace Gas Sampling, Building 371
65.	95-QAPjP-0050	RFETS TRU Waste Characterization Program Quality Assurance Project Plan
66.	1-MAN-008-WM-001	RFETS TRU Waste Management Manual
67.	L-4028	Sample Administration for the Radiological Laboratories
68.	MAN-094-TPM	Training Program Manual
69.	3-X31-CAP-001	Corrective Actions Process
70.	1-V41-RM-001	Records Management Guidance for Record Sources
71.	1-PRO-087-WEMS-WP-1201	WEMS Container Inventory, Tracking, and Control
72.	1-PRO-Q11-WO-1221	Controls for Updating Waste Package Information in WEMS
73.	1-MAN-039-WEM-WP-1200	WEMS Program Management Manual
74.	PRO-604-RC-001	Field Sample QC Data Calculations, Review, and Validation Batch Reports
75.	4-G83-WEM-WP-1209	WEMS Waste Package Verification and Certification
76.	PRO-1358	
77.	PRO-1608	
78.	PRO-110-WP-1212	WIPP Waste Information System (WWIS) Data Entry
79.	PRO-077-WIPP-005	Management of Waste Information Prior to Transmittal to the Waste Records Center